

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
MARSHALL DIVISION**

**NETLIST, INC.**

Plaintiff,

V.

**MICRON TECHNOLOGY, INC.,  
MICRON SEMICONDUCTOR  
PRODUCTS, INC., AND MICRON  
TECHNOLOGY TEXAS LLC,**

Defendants.

Civil Action 2:23-cv-00628

## JURY TRIAL DEMANDED

**FIRST AMENDED COMPLAINT FOR DECLARATORY JUDGMENT**

1. Plaintiff Netlist, Inc. (“Netlist”), by its undersigned counsel, for its Complaint against defendants Micron Technology Inc. (“Micron Technology”), Micron Semiconductor Products, Inc. (“Micron Semiconductor”), and Micron Technology Texas, LLC (“Micron Texas”) (collectively, “Micron” or “Defendants”), states as follows, with knowledge as to its own acts, and on information and belief as to all other matters:

2. Netlist has filed suit against Defendants in the Eastern District of Texas alleging infringement of the following patents: U.S. Patent Nos. 10,860,506 (the “506 Patent,” Ex. 1), 10,949,339 (the “339 Patent,” Ex. 2), 11,016,918 (the “918 Patent,” Ex. 3), 11,232,054 (the “054 Patent,” Ex. 4), 8,787,060 (the “060 Patent,” Ex. 5), and 9,318,160 (the “160 Patent,” Ex. 6), 7,619,912 (the “912 Patent,” Ex. 7), 11,093,417 (the “417 Patent,” Ex. 8), and 9,858,215 (the “215 patent,” Ex. 9) (collectively, the “E.D. Texas Patents”).

3. As explained below, Micron has used a state statute passed in its home state of Idaho to harass Netlist and impose onerous burdens and risks on Netlist's free exercise of its patent and speech rights, including Netlist's exercise of those rights in patent litigation brought in the federal district courts in Texas. It is just a matter of time before Micron does it as to the E.D. Texas Patents. Therefore, Netlist seeks a declaration that these suits were not brought in bad faith; a declaration that Netlist has not made bad faith assertion of patent infringement under Idaho Code § 48-1703; and a declaration that Defendants are not entitled to relief under Idaho Code § 48-1703.

#### **I. NATURE OF THE ACTION**

4. On April 28, 2021, Plaintiff Netlist brought a patent infringement suit against Defendants Micron to vindicate its constitutionally enshrined patent rights, asserting U.S. Patent Nos. 8,301,833 ("the '833 Patent"), 10,489,314 ("the '314 Patent"), 9,824,035 ("the '035 Patent"), and 10,268,608 ("the '608 Patent") (collectively, the "W.D. Texas Patents"). Netlist has also concurrently brought two patent infringement suits against Micron Defendants in the Eastern District of Texas, *Netlist, Inc. v. Micron Tech., Inc. et. al.*, No. 22-cv-203-JRG (E.D. Tex.) ("*Micron I*"); No. 22-cv-294-JRG (E.D. Tex.) ("*Micron II*"), asserting the E.D. Texas Patents.

5. On December 11, 2023, Micron filed a retaliatory claim in Idaho state court, accusing Netlist of bad faith assertion of the '833 Patent under Idaho Code § 48-1703. Micron's retaliatory bad faith suit is baseless and filed to burden Netlist and chill its constitutionally enshrined patent rights and its First Amendment right to petition courts for redress of grievances. Micron's strategy is to drag Netlist into Micron's preferred forum (Idaho), in which Netlist has no presence or any business, and threaten Netlist with the specter of punitive damages. Micron's ploy is to force Netlist to divert resources from the parties' ongoing patent infringement litigations and deter Netlist from, and punish Netlist for, pursuing its infringement claims further.

6. To avoid multiple, costly lawsuits and Micron's blatant venue shopping, Netlist files this Complaint for Declaratory Judgment that the infringement suits brought in the Eastern District of Texas were not brought in bad faith. Absent declaratory relief here, nothing prevents Micron from filing seriatim Idaho state court bad faith claims on each patent in dispute in this district. Indeed, exactly as Netlist had predicted, after Netlist filed its original Complaint in this action on December 22, 2023 (Dkt. 1), Micron again rushed back to Idaho state court and filed a second bad faith claim; this time alleging that Netlist's suit against Micron for the infringement of '054 and '918 patents, which are still pending before this Court, were also brought in bad faith.

7. This tactic, if left unchecked, will not only substantially harm Netlist, but, if Micron can collaterally attack (in Idaho state court) Netlist's infringement claims brought in this district, there will be a significant risk of inconsistent verdicts on infringement, validity, the availability of attorneys' fees, and other patent law questions that are the proper domain of federal law. Moreover, Idaho Code § 48-1703, as interpreted by Micron, would impede on Netlist's First Amendment right to enforce its patent rights and seek redress of grievances. Thus, a substantial controversy exists between Netlist and Micron as to whether Netlist's assertion of the E.D. Texas Patents was in bad faith under Idaho Code § 48-1703.

## **II. THE PARTIES**

8. Plaintiff Netlist is a corporation organized and existing under the laws of the State of Delaware, having a principal place of business at 111 Academy Drive, Suite 100, Irvine, CA 92617.

9. On information and belief, Micron makes dynamic random-access memory ("DRAM"), NAND Flash, and NOR Flash memory, and other memory products in semiconductor fabrication plants in the United States and other countries throughout the world. On information and belief, Micron sells its products to customers, including customers in this District, in the

computer, networking and storage, consumer electronics, solid-state drives and mobile telecommunications markets.

10. On information and belief, Micron Technology is a corporation organized and existing under the laws of Delaware. On information and belief, Micron Technology has a regular and established place of business at 805 Central Expressway South, Suite 100, Allen, Texas 75013. On information and belief, Micron Technology is registered to do business in the State of Texas, and can be served through its registered agent, The Corporation Service Company, 211 E. 7th Street, Suite 620, Austin, Texas 78701-3218.

11. On information and belief, Micron Semiconductor is a corporation organized and existing under the laws of Idaho. On information and belief, Micron Semiconductor has a regular and established place of business at 805 Central Expressway South, Suite 100, Allen, Texas 75013. On information and belief, Micron Semiconductor is registered with the Texas Secretary of State to do business in Texas. On information and belief, Micron Semiconductor can be served through its registered agent, The Corporation Service Company, 211 E. 7th Street, Suite 620, Austin, Texas 78701-3218.

12. On information and belief, Micron Texas is a corporation organized and existing under the laws of Idaho. On information and belief, Micron Texas has a regular and established place of business at 805 Central Expressway South, Suite 100, Allen, Texas 75013. On information and belief, Micron Texas also has a regular and established place of business at 950 West Bethany Drive, Suite 120, Allen, Texas 75013-3837. On information and belief, Micron Texas is registered with the Texas Secretary of State to do business in Texas. On information and belief, Micron Texas can be served through its registered agent, The Corporation Service Company, 211 E. 7th Street, Suite 620, Austin, Texas, 78701-3218.

13. On information and belief, Micron Semiconductor and Micron Texas are wholly owned subsidiaries of Micron Technology. On information and belief, Micron Technology does not separately report revenue from Micron Semiconductor or Micron Texas in its filings to the Securities Exchange Commission, but rather reports combined revenue from its various products and subsidiaries.

14. On information and belief, Defendants have semiconductor fabrication plants in the United States and other countries throughout the world and manufacture memory products such as DRAM, NAND Flash, and NOR Flash at those plants. On information and belief, Defendants also use, sell, and offer for sale in the United States, import into the United States and/or export from the United States memory products, including DDR4 load reduced dual in-line memory modules (“LRDIMMs”), DDR5 dual in-line memory modules (“DIMMs”), HBM memory components, and other high bandwidth memory products and components, or unfinished versions thereof (“Accused Instrumentalities”). On information and belief, Defendants have at least used, sold, or offered to sell products and services, including the Accused Instrumentalities, in this judicial district, *e.g.*, through sales and distribution channels managed by Micron Texas.

15. On information and belief, Defendants place, have placed, and contributed to placing Accused Instrumentalities into the stream of commerce via an established distribution channel knowing or understanding that such products would be sold and used in the United States, including in this judicial district. On information and belief, Defendants have also derived substantial revenues from infringing acts in this judicial district, including from the sale and use of the Accused Instrumentalities.

### **III. JURISDICTION AND VENUE**

16. This Action arises and is brought under the Declaratory Judgment Act, 28 U.S.C. §§ 2201-2202 and arises under federal statute, the patent laws of the United States (35 U.S.C. §§ 1, et seq.), and the United States Constitution.

17. This Court has subject matter jurisdiction over the claims for declaratory judgments under 28 U.S.C. §§ 1331, 1338, 1442, 1454, and 2201(a).

18. Each Defendant is subject to this Court's personal jurisdiction consistent with the principles of due process and/or the Texas Long Arm Statute.

19. Personal jurisdiction exists generally over the Defendants because each Defendant has sufficient minimum contacts and/or has engaged in continuous and systematic activities in the forum as a result of business conducted within the State of Texas and the Eastern District of Texas. Personal jurisdiction also exists over each Defendant because each, directly or through subsidiaries, makes, uses, sells, offers for sale, imports, advertises, makes available, and/or markets products within the State of Texas and the Eastern District of Texas that infringe one or more claims of the E.D. Texas Patents. Further, on information and belief, Defendants have placed or contributed to placing infringing products into the stream of commerce knowing or understanding that such products would be sold and used in the United States, including in this District.

20. Venue is proper in this Court pursuant to 28 U.S.C. §§ 1391(b) and (c) and/or 1400(b) because Defendants (1) have committed and continue to commit acts of patent infringement in this District by, among other things, directly and/or indirectly making, using, selling, offering to sell, or importing products that infringe one or more claims of the Patents-in-Suit, and (2) have done and continue to do business in this District by maintaining regular and

established places of business, including at least at 805 Central Expressway South, Suite 100, Allen, Texas 75013.

#### **IV. FACTUAL ALLEGATIONS**

##### **A. Netlist's Infringement Actions In Texas**

21. On April 28, 2021, Netlist brought a patent infringement suit against Micron Defendants in the Western District of Texas, asserting U.S. Patent Nos. 8,301,833 ("the '833 Patent"), 10,489,314 ("the '314 Patent"), 9,824,035 ("the '035 Patent"), and 10,268,608 ("the '608 Patent"). *Netlist, Inc. v. Micron Tech., Inc. et. al.*, Nos. 22-cv-134 and 22-cv-136 (W.D. Tex. Apr. 28, 2021). On May 11, 2022, the Western District of Texas granted Defendants' Motion to Stay Pending *Inter Partes Review* of the W.D. Texas Patents. *Netlist, Inc. v. Micron Tech., Inc. et. al.*, Nos. 22-cv-134 and 22-cv-136, Dkt. 68 (W.D. Tex. Apr. 28, 2021).

22. Netlist has also concurrently brought two patent infringement suits against Micron Defendants in the Eastern District of Texas, *Netlist, Inc. v. Micron Tech., Inc. et. al.*, No. 22-cv-203-JRG (E.D. Tex.) ("*Micron I*"); No. 22-cv-294-JRG (E.D. Tex.) ("*Micron II*"), asserting U.S. Patent Nos. 10,860,506 (the "'506 patent"); 10,949,339 (the "'339 patent"); 11,016,918 (the "'918 patent"); 11,232,054 (the "'054 patent"); 8,787,060 (the "'060 patent"); and 9,318,160 (the "'160 patent") and U.S. Patent Nos. 7,619,912 (the "'912 patent"); 11,093,417 (the "'417 patent"); and 9,858,215 (the "'215 patent").

##### **B. Micron's Retaliatory Idaho Action**

23. On December 11, 2023, Micron filed a lawsuit against Netlist in Idaho state court alleging that Netlist had violated the Idaho Bad Faith Assertions of Patent Infringement Act (Idaho Code, tit. 48, ch. 17).

24. In the first Idaho Complaint (Ex. 10), Micron touts its ties to Idaho and the jobs and wealth it generates for the state:

Micron is Idaho's most successful technology business and largest for-profit employer. Micron began in 1978 as a four-person semiconductor-design company in the basement of a Boise dental office. Since then, Micron has become a world leader in innovative computer-memory and data storage solutions, employing more than 6,000 people in Idaho. As Micron has grown into a global semiconductor innovator, Boise has remained its home, serving as the location of Micron's headquarters and principal research and development center. Indeed, Micron recently announced plans to invest approximately \$15 billion through the end of the decade to construct a new plant for leading-edge memory manufacturing in Boise. It is estimated that this project will create over 17,000 new jobs.

Ex. 10 ¶ 2.

25. In contrast, the first Idaho Complaint portrays Netlist as an out-of-state “patent assertion entity” whose business is “shake down” Idaho businesses such as Micron:

Netlist's “business” has become bringing patent infringement suits, apparently to drive up litigation costs and pressure the true innovators, such as Micron, to pay what amounts to a business tax, i.e., pay Netlist to settle meritless suits. True to that mission, Netlist targeted Micron alleging infringement of facially invalid patents.

Ex. 10 ¶¶ 2-3.

26. The Idaho Act makes it “unlawful for a person to make a bad faith assertion of patent infringement in a demand letter, a complaint[,] or any other communication, Idaho Code § 48-1703(1).

27. Micron's first Idaho Complaint focuses specifically on one of the W.D. Texas Patents, the '833 Patent. According to Micron, Netlist brought suit on the '833 Patent in subjective bad faith because, Micron contends, there was no doubt that “a reasonable actor in [Netlist's] position would know or reasonably should know that [the lawsuit] is meritless.” Ex. 10, at ¶ 39 (citing, Idaho Code § 48-1703(2)(f)).

28. It was clear from the outset, however, that Micron did not intend to stop at the '833 Patent. According to Micron, Netlist's entire business model hinges on bringing meritless suits to force Micron into settlements. Ex. 10 ¶¶ 3-4. Micron's allegations are baseless, but Micron clearly intends to bring bad faith claims against Netlist in what Micron believes to be a favorable state-



court venue in order to divert Netlist's resources and threaten it with the prospect of substantial damages for asserting its constitutionally-enshrined patent rights.

29. Indeed, shortly after Netlist filed its original complaint in this action, Micron brought another suit under Idaho Code § 48-1703 alleging that Netlist's suit against Micron for infringement of the '054 and '918 Patents in this district was brought in bad faith. This second Idaho complaint is in many respects identical to Micron's first Idaho complaint, except this time Micron alleges that "Netlist knew, and any reasonable litigant should have known, that the '054 and '918 patents were invalid." Ex. 13, ¶ 5.

30. Micron's complaints in Idaho are not only baseless, but they are preempted by federal law and impede on Netlist's First Amendment rights. Micron asserts that it can prevail under its home court statute without proving that Netlist's assertions of validity and infringement were objectively baseless. According to Micron:

[T]he statute provides that courts may consider a litany of factors 'as evidence that a person has made a bad faith assertion of patent infringement:

- (a) comparing the claims in the patent to the target's products, services, or technology.
- (b) The demand letter does not contain the following information: (i) The patent number; (ii) The name and address of the patent owner or owners and assignee or assignees, if any; and (iii) The factual allegations concerning the specific areas in which the target's products, services and technology infringe the patent or are covered by the claims in the patents.
- (c) The demand letter does not identify specific areas in which the products, services and technology are covered by the claims in the patent.
- (d) The demand letter demands payment of a license fee or response within an unreasonably short period of time.
- (e) The person offers to license the patent for an amount that is not reasonable based on the value of a license to the patent.

(f) The person asserting a claim or allegation of patent infringement acts in subjective bad faith, or a reasonable actor in the person's position would know or reasonably should know that such assertion is meritless.

(g) The claim or assertion of patent infringement is deceptive.

(h) The person or its subsidiaries or affiliates have previously filed or threatened to file one (1) or more lawsuits alleging patent infringement based on the same or similar claim, the person attempted to enforce the claim of patent infringement in litigation and a court found the claim to be meritless. (i) Any other factor the court finds relevant. Idaho Code § 48-1703(2).

These factors do not require Micron to prove—or the court to make any finding with respect to—the non-infringement or invalidity of Netlist's asserted patent.”

Ex. 14, at 9-10.

31. If this interpretation is correct, however, then the Idaho bad faith statute is preempted by federal law at least as applied to Netlist. At a minimum, to survive federal preemption, a state law must require a plaintiff to prove that the underlying patent suit was objectively baseless, meaning no reasonable litigant could have believed that Micron infringed any of the asserted claims and that the asserted patents were valid at the time Netlist's suit was brought. Thus, infringement and validity must be part of the bad faith analysis as required by federal law. Otherwise, the Idaho bad faith statute violates the supremacy clause, at least as applied to Netlist. In addition, Micron's suits are an improper attempt to chill Netlist's First Amendment rights.

### **C. The Eastern District of Texas Actions Were Brought in Good Faith**

32. As a result of Micron's retaliatory Idaho Action, there exists a substantial controversy as to whether Netlist's infringement actions against Micron in the Eastern District of Texas violated Idaho Code § 48-1703. As set forth below, Netlist had an objectionably reasonable basis for asserting that all of the pending infringement claims that Netlist has brought against Micron in the Eastern District of Texas had merit. Netlist also brought these suits to achieve a favorable verdict on the merits. Idaho Code § 48-1703(1). Thus, Netlist's infringement suits were

brought in good faith and do not violate Idaho Code § 48-1703. Indeed, these suits are still ongoing, and, as Netlist will show at trial, Micron has infringed the E.D. Texas Patents.

(i) **The '506 Patent**

33. The '506 Patent is entitled "Memory Module With Timing-Controlled Data Buffering." Netlist's infringement allegations concerning the '506 Patent are set forth in Netlist's operative complaint in *Micron I*. Ex. 11.

34. In sum, Netlist's infringement allegations are based on Micron's accused DDR4 LRDIMM products, which include a registering clock driver (RCD), a module board having edge connections to be coupled to respective signal lines in the memory bus, a module control device (*e.g.*, a RCD) on the module board configurable to receive input C/A signals, memory devices (*e.g.*, DDR4 SDRAMs) arranged in multiple ranks on the module board and coupled to the module control device (*e.g.*, RCD) via module C/A signal lines that conduct the registered C/A signals, which cause a selected rank of the multiple ranks to perform the memory read operation by outputting read data and read strobes associated with the memory read operation, and a first memory device in the selected rank is configurable to output at least a first section of the read data and at least a first read strobe.

35. The accused DDR4 LRDIMMs further each include data buffers on the module board and coupled between the edge connections and the memory devices, wherein a respective data buffer of the data buffers is coupled to at least one respective memory device in each of the multiple ranks and is configurable to receive the module control signals from the module control device. In each accused DDR4 LRDIMM, a first data buffer on the data buffers is coupled to the first memory device and is configurable to, in response to one or more of the module control signals: delay the first read strobe by a first predetermined amount to generate a first delayed read strobe; sample the first section of the read data using the first delayed read strobe; and transmit the

first section of the read data to a first section of the data bus; wherein the first predetermined amount is determined based at least on signals received by the first data buffer during one or more previous operations.

36. Micron also indirectly infringes the '506 Patent, as provided in 35 U.S.C. § 271(b), by inducing infringement by others, such as Micron's customers and end users, in this District and elsewhere in the United States. For example, Micron has induced, and currently induces, the infringement of the '506 Patent through its affirmative acts of selling, offering to sell, distributing, and/or otherwise making available the accused DDR4 LRDIMM and other materially similar products that infringe the '506 Patent. As another example, Micron provides specifications, datasheets, instruction manuals, and/or other materials that encourage and facilitate infringing use of the accused DDR4 LRDIMM products and other materially similar products by users in a manner that it knows or should have known would result in infringement and with the intent of inducing infringement.

37. Micron also indirectly infringes the '506 Patent, as provided in 35 U.S.C. § 271(c), contributing to direct infringement committed by others, such as customers and end users, in this District and elsewhere in the United States. For example, Micron has contributed to, and currently contributes to, Micron's customers and end-users infringement of the '506 Patent through its affirmative acts of selling and offering to sell, in this District and elsewhere in the United States, the accused DDR4 LRDIMM and other materially similar products that infringe the '506 Patent. The accused DDR4 LRDIMM products and other materially similar products have no substantial noninfringing use, and constitute a material part of the patented invention. Micron is aware that the product or process that includes the accused DDR4 LRDIMM and other materially similar products would be covered by one or more claims of the '506 Patents. The use of the product or

process that includes the accused DDR4 LRDIMM and other materially similar products infringes at least one claim of the '506 Patent.

38. Micron's infringement of the '506 Patent has damaged and will continue to damage Netlist. Netlist presented its patented technologies disclosed in the '506 Patent to Micron at least as of February and/or April 2015. And Micron has had actual notice of the '506 Patent since at least on April 28, 2021. Micron's infringement of the '506 Patent has been continuing and willful. Micron continues to commit acts of infringement despite a high likelihood that its actions constitute infringement, and Micron knew or should have known that its actions constituted an unjustifiably high risk of infringement.

(ii) **The '339 Patent**

39. The '339 Patent is entitled "Memory Module With Controlled Byte-Wise Buffers," and discloses a memory module configured to communicate with a memory controller that includes DDR DRAM devices arranged in multiple ranks each of the same width as the memory module, and a module controller configured to receive and register input control signals for a read or write operation from the memory controller and to output registered address and control signals. Netlist's infringement allegations concerning the '339 Patent are set forth in Netlist's operative complaint in *Micron I*. Ex. 11.

40. Netlist's infringement allegations of the '339 Patent are based on Micron's DDR4 LRDIMMs, which include an RCD, double data rate dynamic random access memory (*e.g.*, DDR4 DRAM) devices coupled to the PCB and arranged in multiple N-bit-wide ranks, where the module controller (*e.g.*, RCD) is coupled to the PCB and operatively coupled to the DDR DRAM devices and configurable to receive from the memory controller via the address and control signal lines input address and control signals for a memory write operation to write N-bit-wide write data from the memory controller into a first N-bit-wide rank of the multiple N-bit-wide ranks, and to output

registered address and control signals in response to receiving the input address and control signals, wherein the registered address and control signals cause the first N-bit-wide rank to perform the memory write operation by receiving the N-bit-wide write data (*e.g.*, by using a registered chip-select signal to select a target rank for performing the memory write operation), wherein the module controller is further configurable to output module control signals (*e.g.*, during a first clock cycle when BCOM [3:0] is 1000, the module control signals would correspond to a write WR command) in response to at least some of the input address and control signals.

41. Micron's DDR4 LRDIMMs also each comprise a plurality of byte-wise buffers coupled to the PCB and configured to receive the module control signals, wherein each respective byte-wise buffer of the plurality of byte-wise buffers has a first side configured to be operatively coupled to a respective set of data signal lines, a second side that is operatively coupled to at least one respective DDR DRAM device in each of the multiple N-bit-wide ranks via respective module data lines, and a byte-wise data path between the first side and the second side, wherein the each respective byte-wise buffer is disposed on the PCB at a respective position corresponding to the respective set of the plurality of sets of data signal lines. The byte-wise buffer further includes logic configurable to control the byte-wise data path in response to the module control signals and the byte-wise data path includes first tristate buffers, and the logic in response to the module control signals is configured to enable the first tristate buffers to drive the respective byte-wise section of the N-bit wide write data to the respective module data lines during the first time period. In Micron's DDR4 LRDIMMs, the byte-wise data path is enabled for a first time period in accordance with a latency parameter to actively drive a respective byte-wise section of the N-bit wide write data associated with the memory operation from the first side to the second side during the first time period.

42. Micron also indirectly infringes the '339 Patent, as provided in 35 U.S.C. § 271(b), by inducing infringement by others, such as Micron's customers and end users, in this District and elsewhere in the United States. For example, Micron has induced, and currently induces, the infringement of the '339 Patent through its affirmative acts of selling, offering to sell, distributing, and/or otherwise making available the accused DDR4 LRDIMM products and other materially similar products that infringe the '339 Patent. As another example, Micron provides specifications, datasheets, instruction manuals, and/or other materials that encourage and facilitate infringing use of the accused DDR4 LRDIMM products and other materially similar products by users in a manner that it knows or should have known would result in infringement and with the intent of inducing infringement.

43. Micron also indirectly infringes the '339 Patent, as provided in 35 U.S.C. § 271(c), contributing to direct infringement committed by others, such as customers and end users, in this District and elsewhere in the United States. For example, Micron has contributed to, and currently contributes to, Micron's customers and end-users infringement of the '339 Patent through its affirmative acts of selling and offering to sell, in this District and elsewhere in the United States, the accused DDR4 LRDIMM products and other materially similar products that infringe the '339 Patent. The accused DDR4 LRDIMM and other materially similar products have no substantial noninfringing use, and constitute a material part of the patented invention. Micron is aware that the product or process that includes the accused DDR4 LRDIMM products and other materially similar products would be covered by one or more claims of the '339 Patent. The use of the product or process that includes the accused DDR4 LRDIMM products infringes at least one claim of the '339 Patent.

44. Micron's infringement of the '339 Patent has damaged and will continue to damage Netlist. Netlist presented its patented technologies disclosed in the '339 Patent to Micron at least

as of February and/or April 2015. And Micron has had actual notice of the '339 Patent since at least April 28, 2021. Micron's infringement of the '339 Patent has been continuing and willful. Micron continues to commit acts of infringement despite a high likelihood that its actions constitute infringement, and Micron knew or should have known that its actions constituted an unjustifiably high risk of infringement.

**(iii) The '918 Patent**

45. The '918 Patent is entitled "Flash-DRAM Hybrid Memory Module." Netlist's infringement allegations concerning the '918 Patent are set forth in Netlist's operative complaint in *Micron I*. Ex. 11.

46. Netlist's infringement allegations concerning the '918 Patent are based on Micron's DDR5 LRDIMMs, DDR5 RDIMMs, DDR5 SODIMMs, DDR5 UDIMMs, with features including, a printed circuit board (PCB) having an interface configured to fit into a corresponding slot connector of a host system, the interface including a plurality of edge connections configured to couple power, data, address and control signals between the memory module and the host system, a first buck converter configured to provide a first regulated voltage having a first voltage amplitude; a second buck converter configured to provide a second regulated voltage having a second voltage amplitude; a third buck converter configured to provide a third regulated voltage having a third voltage amplitude; and a converter circuit configured to provide a fourth regulated voltage having a fourth voltage amplitude. For example, Micron's DDR5 memory modules feature an on-module PMIC that receives a nominal 12V input supply V\_BULK, as well as an alternative power supply VIN\_Management. Netlist alleged that the V\_BULK is the power input to buck converters while VIN\_Management supplies power to other components on the board. The output of the PMIC includes three voltages VDD, VDDQ, and VPP outputted by buck converts and a nominal 1.0V output by a linear dropout regulator (LDO), where the VDD and VDDQ are



nominally at 1.1V and VPP is nominally at 1.8V. The PMIC on Micron's DIMMs provides the required regulated voltages, in accordance with the latest DDR5 standards.

47. Micron's DDR5 products further comprise a plurality of components coupled to the PCB, each component of the plurality of components coupled to one or more regulated voltages of the first, second, third and fourth regulated voltages, the plurality of components comprising: a plurality of synchronous dynamic random access memory (SDRAM) devices coupled to the first regulated voltage, and at least one circuit (*e.g.*, RCD) coupled between a first portion of the plurality of edge connections and the plurality of SDRAM devices. The at least one circuit (*e.g.*, RCD) is operable to (i) receive a first plurality of address and control signals via the first portion of the plurality of edge connections, and (ii) output a second plurality of address and control signals to the plurality of SDRAM devices. The at least one circuit is coupled to both the second regulated voltage and the fourth regulated voltage. For example, the RCD receives both VDDIO and VDD or VDDQ input, with the amplitude of VDDIO (*e.g.*, 1.0V) being less than the amplitude of VDD (*e.g.*, 1.1V) or VDDQ (*e.g.*, 1.1V).

48. Micron also indirectly infringes the '918 Patent, as provided in 35 U.S.C. § 271(b), by inducing infringement by others, such as Micron's customers and end users, in this District and elsewhere in the United States. For example, Micron has induced, and currently induces, the infringement of the '918 Patent through its affirmative acts of selling, offering to sell, distributing, and/or otherwise making available the accused DDR5 DIMM products and other materially similar products that infringe the '918 Patent. Micron provides specifications, datasheets, instruction manuals, and/or other materials that encourage and facilitate infringing use of the accused DDR5 DIMM products and other materially similar products by users in a manner that it knows or should have known would result in infringement and with the intent of inducing infringement.

49. Micron also indirectly infringes the '918 Patent, as provided in 35 U.S.C. § 271(c), contributing to direct infringement committed by others, such as customers and end users, in this District and elsewhere in the United States. For example, Micron has contributed to, and currently contributes to, Micron's customers and end-users infringement of the '918 Patent through its affirmative acts of selling and offering to sell, in this District and elsewhere in the United States, the accused DDR5 DIMM and other materially similar products that infringe the '918 Patent. The accused DDR5 DIMM products and other materially similar products have no substantial noninfringing use, and constitute a material part of the patented invention. Micron is aware that the product or process that includes the accused DDR5 DIMM or other materially similar products would be covered by one or more claims of the '918 Patent. The use of the product or process that includes the accused DDR5 DIMM or other materially similar products infringes at least one claim of the '918 Patent.

50. Micron's infringement of the '918 Patent has damaged and will continue to damage Netlist. Netlist presented its patented technologies disclosed in the '918 Patent to Micron at least as of February and/or April 2015. And Micron has had actual notice of the '918 Patent since at least April 28, 2021. Micron's infringement of the '918 Patent has been continuing and willful. Micron continues to commit acts of infringement despite a high likelihood that its actions constitute infringement, and Micron knew or should have known that its actions constituted an unjustifiably high risk of infringement.

(iv) **The '054 Patent**

51. The '054 Patent is entitled "Flash-DRAM Hybrid Memory Module." Netlist's infringement allegations concerning the '054 Patent are set forth in Netlist's operative complaint in *Micron I*. Ex. 11.

52. Netlist's infringement allegations concerning the '054 Patent are based on Micron's DDR5 LRDIMMs, DDR5 RDIMMs, DDR5 SODIMMs, DDR5 UDIMMs, which comprise features including, a memory module comprising a printed circuit board (PCB) having an interface configured to fit into a corresponding slot connector of a host system, a voltage conversion circuit coupled to the PCB and configured to provide a plurality of regulated voltages, wherein the voltage conversion circuit includes three buck converters each of which is configured to produce a regulated voltage of the plurality of regulated voltages. VDD, VDDQ and VPP are regulated voltages produced by buck converters, SWA, SWB and SWC. The voltage conversion circuit, which includes the relevant parts of PMIC, *e.g.*, the inductors, capacitors, and other necessary elements that comprise at least three buck converters, provides the at least three required regulated voltages. The regulated voltages include VDD, VDDQ, VPP, among others. VDD and VDDQ can be programmed to have an amplitude of 1.1V. As another example, VPP can be a regulated voltage at 1.8V. DRAMs on the PCB are each coupled to the VDD, VDDQ and VPP regulated voltages. The voltage conversion circuit can also have other voltage regulators, including linear voltage dropout regulators. Outputs from these other voltage regulators include, *e.g.*, a 1.8V output for powering components such as SPD, and a 1.0V output that may also be used to power SPD or where applicable, components such as an RCD that is present in RDIMMs and LRDIMMs. Micron's DDR5 products further comprise a plurality of components (such as DRAM devices, thermal sensors, SPD and, where applicable, RCD and data buffers) coupled to the PCB, each component of which is coupled to at least one regulated voltage of the plurality of regulated voltages, including a plurality of SDRAM devices coupled to a first regulated voltage of the plurality of regulated voltages, such as VDD. Micron's DDR5 products further comprise a controller coupled to the PCB, which includes a voltage monitor circuit coupled to an input voltage, such as VIN\_BULK or where applicable, VIN\_MGMT, received from the host system

via the interface. The controller and the voltage monitoring circuit may be part of the PMIC. In response to the voltage monitor detecting an amplitude change in the input voltage (*e.g.*, an over- or under-voltage condition on the input power pins), the memory module transitions from a first operable state (*e.g.*, with all components operating normally) to a second operable state (*e.g.*, with the PMIC, thermal sensors, and/or SPD still operating, but not necessarily all components operating).

53. Netlist further alleged infringement based on the detection of an over- or under-voltage, where the controller is configured to perform operations such as a write operation that records predefined bit value(s) in a register. The register is a non-volatile memory because the information written to the register by the controller is retained even after power-off.

54. Micron also indirectly infringes the '054 Patent, as provided in 35 U.S.C. § 271(b), by inducing infringement by others, such as Micron's customers and end users, in this District and elsewhere in the United States. For example, Micron has induced, and currently induces, the infringement of the '054 Patent through its affirmative acts of selling, offering to sell, distributing, and/or otherwise making available the accused DDR5 DIMM products and other materially similar products that infringe the '054 Patent. Micron provides specifications, datasheets, instruction manuals, and/or other materials that encourage and facilitate infringing use of the accused DDR5 DIMM products and other materially similar products by users in a manner that it knows or should have known would result in infringement and with the intent of inducing infringement.

55. Micron also indirectly infringes the '054 Patent, as provided in 35 U.S.C. § 271(c), contributing to direct infringement committed by others, such as customers and end users, in this District and elsewhere in the United States. For example, Micron has contributed to, and currently contributes to, Micron's customers and end-users infringement of the '054 Patent through its affirmative acts of selling and offering to sell, in this District and elsewhere in the United States,

the accused DDR5 DIMM and other materially similar products that infringe the '054 Patent. The accused DDR5 DIMM products and other materially similar products have no substantial noninfringing use, and constitute a material part of the patented invention. Micron is aware that the product or process that includes the accused DDR5 DIMM or other materially similar products would be covered by one or more claims of the '054 Patent. The use of the product or process that includes the accused DDR5 DIMM or other materially similar products infringes at least one claim of the '054 Patent.

56. Micron's infringement of the '054 Patent has damaged and will continue to damage Netlist. Netlist presented its patented technologies disclosed in the '054 Patent to Micron at least as of February and/or April 2015. And Micron has had actual notice of the '054 Patent since at least April 28, 2021. Micron's infringement of the '054 Patent has been continuing and willful. Micron continues to commit acts of infringement despite a high likelihood that its actions constitute infringement, and Micron knew or should have known that its actions constituted an unjustifiably high risk of infringement.

(v) **The '060 Patent**

57. The '060 Patent is entitled "Method and Apparatus for Optimizing Driver Load in a Memory Package." Netlist's infringement allegations concerning the '060 Patent are set forth in Netlist's operative complaint in *Micron I*. Ex. 11.

58. Netlist's infringement allegations concerning the '060 Patent are based on Micron's HBM Products (including Micron's HMB3E products), which include a plurality of array dies arranged in a stack (*e.g.*, 8 stacked DRAM dies), which can be divided into at least two groups of array dies. The dies are interconnected via TSVs and associated bumps and bond pads. Micron's HBM Products also have at least two die interconnects. For example, some TSVs only electrically interconnect some of the DRAM dies (first group of array die(s), selected from the group of DRAM

dies that Micron annotates each individually as a “Core Die” or “Memory Die”), while others may electrically bypass this first group of array dies and electrically connect with the active transceiver logic of at least one of the other DRAM dies (second group of array die(s)). The Accused HBM Products also include a control die, with a plurality of input/output terminals, such as terminals for data and control/address signals via which the memory die stack communicates data and control/address signals with a CPU, GPU, FPGA, or other external dies. The control die also includes a first driver that drives data signal via the first die interconnects and a second driver that drives data signal via the second die interconnects. The operation of Micron’s HBM Products includes a step of receiving a data signal at a first terminal (*e.g.*, a data terminal) of the input/output terminals and a step of receiving a control signal at second terminals (*e.g.*, control/address terminals) of the input/output terminals. Chip select signals, which may be encoded in the received stack ID (“SID”) signals, each select an array die to which data signals are to be driven by the corresponding data driver via the corresponding die interconnects. Micron’s HBM Products select one of the first driver and the second driver in accordance with the chip select signal(s) to drive the data signal to the selected array die via the corresponding first or second die interconnect.

59. Micron also indirectly infringes the ’060 Patent, as provided in 35 U.S.C. § 271(b), by inducing infringement by others, such as Micron’s customers and end users, in this District and elsewhere in the United States. For example, Micron has induced, and currently induces, the infringement of the ’060 Patent through its affirmative acts of selling, offering to sell, distributing, and/or otherwise making available the accused HBM products and other materially similar products that infringe the ’060 Patent. Micron provides specifications, datasheets, instruction manuals, and/or other materials that encourage and facilitate infringing use of the accused HBM products and other materially similar products by users in a manner that it knows or should have known would result in infringement and with the intent of inducing infringement.

60. Micron also indirectly infringes the '060 Patent, as provided in 35 U.S.C. § 271(c), contributing to direct infringement committed by others, such as customers and end users, in this District and elsewhere in the United States. For example, Micron has contributed to, and currently contributes to, Micron's customers and end-users infringement of the '060 Patent through its affirmative acts of selling and offering to sell, in this District and elsewhere in the United States, the accused HBM and other materially similar products that infringe the '060 Patent. The accused HBM products and other materially similar products have no substantial noninfringing use, and constitute a material part of the patented invention. Micron is aware that the product or process that includes the accused HBM or other materially similar products would be covered by one or more claims of the '060 Patent. The use of the product or process that includes the accused HBM or other materially similar products infringes at least one claim of the '060 Patent.

61. Micron's infringement of the '060 Patent has damaged and will continue to damage Netlist. Netlist presented its patented technologies disclosed in the '060 Patent to Micron at least as of April 2015. And Micron has had actual notice of the '060 Patent since at least April 28, 2021. Micron's infringement of the '060 Patent has been continuing and willful. Micron continues to commit acts of infringement despite a high likelihood that its actions constitute infringement, and Micron knew or should have known that its actions constituted an unjustifiably high risk of infringement.

**(vi) The '160 Patent**

62. The '160 Patent is entitled "Memory Package with Optimized Driver Load and Method of Operation." Netlist's infringement allegations concerning the '160 Patent are set forth in Netlist's operative complaint in *Micron I*. Ex. 11.

63. Netlist's infringement allegations concerning the '160 Patent are based on Micron's Accused HBM Products, which include terminals for data and terminals for control signals (*e.g.*,

command and address signals), stacked array dies (*e.g.*, 8 stacked DRAM dies) including at least two groups of array dies. The dies are interconnected via TSVs and associated bumps and bond pads. Micron's HBM Products have at least two interconnects, each in electrical communication with one group of array dies but not in communication with a second group of array dies. For example, first die interconnects are in electrical communication with a first group of array dies and not in electrical communication with a second group of at least one array die; and second die interconnects are in electrical communication with the second group of at least one array die and not in electrical communication with the first group of array dies. This may be achieved by electrically coupling certain TSVs with active transceiver logic for only a subset of the dies. For example, some TSVs may only interconnect some of the DRAM dies (first group of array dies) and some may bypass this first group of DRAM dies and electrically connect with the active transceiver logic of at least some of the other DRAM dies (second group of array dies). The Micron HBM Products also each include a control die, which includes first data conduits between the first die interconnects and the data terminals, and second data conduits between the second die interconnects and the data terminals. The data conduit includes first drivers each having a first driver size and configured to drive a data signal from a corresponding data terminal to the first group of array dies; and the second data conduit include second drivers each having a second driver size and configured to drive a data signal from a corresponding data terminal to the second group of at least one array die. The second driver size is different from the first driver size, for example, to account for the different distances data signals have to travel to reach the respective array dies in the stack.

64. Micron also indirectly infringes the '160 Patent, as provided in 35 U.S.C. § 271(b), by inducing infringement by others, such as Micron's customers and end users, in this District and elsewhere in the United States. For example, Micron has induced, and currently induces, the



infringement of the '160 Patent through its affirmative acts of selling, offering to sell, distributing, and/or otherwise making available the accused HBM products and other materially similar products that infringe the '160 Patent. Micron provides specifications, datasheets, instruction manuals, and/or other materials that encourage and facilitate infringing use of the accused HBM products and other materially similar products by users in a manner that it knows or should have known would result in infringement and with the intent of inducing infringement.

65. Micron also indirectly infringes the '160 Patent, as provided in 35 U.S.C. § 271(c), contributing to direct infringement committed by others, such as customers and end users, in this District and elsewhere in the United States. For example, Micron has contributed to, and currently contributes to, Micron's customers and end-users infringement of the '160 Patent through its affirmative acts of selling and offering to sell, in this District and elsewhere in the United States, the accused HBM and other materially similar products that infringe the '160 Patent. The accused HBM products and other materially similar products have no substantial noninfringing use, and constitute a material part of the patented invention. Micron is aware that the product or process that includes the accused HBM or other materially similar products would be covered by one or more claims of the '160 Patent. The use of the product or process that includes the accused HBM or other materially similar products infringes at least one claim of the '160 Patent.

66. Micron's infringement of the '160 Patent has damaged and will continue to damage Netlist. Netlist presented its patented technologies disclosed in the '160 Patent to Micron at least as of April 2015. And Micron has had actual notice of the '160 Patent since at least April 28, 2021. Micron's infringement of the '160 Patent has been continuing and willful. Micron continues to commit acts of infringement despite a high likelihood that its actions constitute infringement, and Micron knew or should have known that its actions constituted an unjustifiably high risk of infringement.

(vii) **The '912 Patent**

67. The '912 patent is entitled "Memory Module Decoder." Netlist's infringement allegations concerning the '912 Patent are set forth in Netlist's operative complaint in *Micron II*. Ex. 12.

68. Netlist's infringement allegations concerning the '912 Patent are based on Micron's DDR4 LRDIMM and RDIMM Products, which are memory modules connectable to a computer system, and include a printed circuit board (PCB) with a plurality of memory devices and other components mounted on the PCB, edge connections on the PCB for coupling data, address signals and control signals between the DIMM and the memory controller on the computer system, where the DRAM devices are arranged in sets of two or more ranks. The Micron DDR4 LRDIMM and RDIMM Products also include a circuit, e.g., DDR4 RCD, which is coupled (i.e., electrically connected) to the PCB and comprises a logic element and a register. The RCD in Micron's DDR4 LRDIMM and RDIMM Products receives a set of input signals from the computer system, including at least one row/column address signal, bank address signals, and at least one chip-select signal. The RCD implements a chip select mode, where the RCD to receive a set input chip selects for fewer than the total number of ranks in the DIMM. The RCD on Micron's DDR4 LRDIMM and RDIMM Products also generates a set of output signals (QAA[13:0]) and/or QBA[13:0]) in response to the set of input signals. The RCD on Micron's DDR4 LRDIMM and RDIMM Products will select the rank(s) indicated by the output chip select signals that are asserted low. The RCD in Micron's DDR4 LRDIMM and RDIMM Products is also designed to allow the programmability of individual DDR memory devices (PDA mode). The Micron DDR4 LRDIMM and RDIMM Products also include a phase-lock loop device (PLL) that is electrically connected to the register and logic element of the RCD.

69. Micron also indirectly infringes the '912 patent, as provided in 35 U.S.C. § 271(b), by inducing infringement by others, such as Micron's customers and end users, in this District and elsewhere in the United States. For example, Micron has induced, and currently induces, the infringement of the '912 patent through its affirmative acts of selling, offering to sell, distributing, and/or otherwise making available the Accused Products, and other materially similar products that infringe the '912 patent. Micron provides specifications, datasheets, instruction manuals, and/or other materials that encourage and facilitate infringing use of the Accused Products and other materially similar products by users in a manner that it knows or should have known would result in infringement and with the intent of inducing infringement.

70. Micron also indirectly infringes the '912 patent, as provided in 35 U.S.C. § 271(c), contributing to direct infringement committed by others, such as customers and end users, in this District and elsewhere in the United States. For example, Micron has contributed to, and currently contributes to, Micron's customers and end-users infringement of the '912 patent through its affirmative acts of selling and offering to sell, in this District and elsewhere in the United States, the Accused Products that infringe the '912 patent. The Accused Products have no substantial noninfringing use, and constitute a material part of the patented invention. Micron is aware that the product or process that includes the Accused Products would be covered by one or more claims of the '912 patent. The use of the product or process that includes Accused Products infringes at least one claim of the '912 patent.

71. Micron's infringement of the '912 patent has damaged and will continue to damage Netlist. Micron has had knowledge of the '912 patent since as early as 2010, when Netlist disclosed it at a JEDEC meeting Micron attended. Micron also gained knowledge of the '912 patent in 2015, when Netlist included it in a presentation to Micron. Micron gained knowledge of the '912 patent no later than April 28, 2021, when Netlist sent Micron a licensing negotiation letter identifying the

'912 patent. Micron's infringement of the '912 patent has been continuous and willful. Micron continues to commit acts of infringement despite a high likelihood that its actions constitute infringement, and Micron knew or should have known that its actions constituted an unjustifiably high risk of infringement.

**(viii) The '417 Patent**

72. The '417 Patent is entitled "Memory Module With Data Buffering." Netlist's infringement allegations concerning the '417 Patent are set forth in Netlist's operative complaint in *Micron II*. Ex. 12.

73. Netlist's infringement allegations concerning the '417 Patent are based on Micron's DDR4 LRDIMMs, which comprise a memory module operable in a computer system to communicate data with a memory controller of the computer system via a N-bit wide data bus in response to memory commands (e.g., read or write) received from the memory controller. The DDR4 LRDIMMs feature a PCB having a plurality of edge connections configured to be electrically coupled to a corresponding plurality of contacts of a module slot of the computer system, with logic (e.g., DDR4 registering clock driver, or "RCD") coupled to the PCB. Micron's DDR4 LRDIMMs are configurable to receive a set of input address and control signals associated with a read or write memory command via the address and control signal lines and to output a set of registered address and control signals in response to the set of input address and control signals. The set of input address and control signals includes a plurality of input chip select signals and other input address and control signals. The plurality of input chip select signals include one chip select signal having an active signal value and one or more other input chip select signals each having a non-active signal value. The logic receives the chip select signals with one active value and one or more chip selects with a non-active value and outputs corresponding registered chip selects. The logic is further configurable to output data buffer control signals (e.g.,

BCOM[3:0]=1001 or BCOM[3:0]=1000) in response to the read or write memory command, e.g., via the data buffer control bus BCOM[3:0] bus. Micron's DDR4 LRDIMMs further comprise memory devices (e.g., SDRAMs) mounted on the PCB and arranged in a plurality of N-bit wide ranks, which correspond to respective ones of the plurality of registered chip select signals such that each of the plurality of registered chip select signals is received by memory devices on respective N-bit wide ranks. Microns' DDR4 LRDIMMs each include circuitry (e.g., DDR4 data buffers) coupled between the data signal lines in the N-bit wide memory bus and corresponding data pins of memory devices in each of the plurality of N-bit wide ranks. The circuitry (e.g., DDR4 data buffer) is configurable to transfer the burst of N-bit wide data signals between the N-bit wide memory bus and the memory devices in the one of the plurality of N-bit wide ranks in response to the data buffer control signals (e.g., BCOM[3:0]=1001 or BCOM[3:0]=1000) and in accordance with an overall CAS latency of the memory module. The data transfers through the circuitry (e.g., DDR4 data buffer) are registered for an amount of time delay such that the overall CAS latency of the memory module is greater than an actual operational CAS latency of each of the memory devices.

74. Micron also indirectly infringes the '417 patent, as provided in 35 U.S.C. § 271(b), by inducing infringement by others, such as Micron's customers and end users, in this District and elsewhere in the United States. For example, Micron has induced, and currently induces, the infringement of the '417 patent through its affirmative acts of selling, offering to sell, distributing, and/or otherwise making available the accused DDR4 LRDIMM products and other materially similar products that infringe the '417 patent. Micron provides specifications, datasheets, instruction manuals, and/or other materials that encourage and facilitate infringing use of the accused DDR4 LRDIMM products and other materially similar products by users in a manner that

it knows or should have known would result in infringement and with the intent of inducing infringement.

75. Micron also indirectly infringes the '417 patent, as provided in 35 U.S.C. § 271(c), contributing to direct infringement committed by others, such as customers and end users, in this District and elsewhere in the United States. For example, Micron has contributed to, and currently contributes to, Micron's customers and end-users infringement of the '417 patent through its affirmative acts of selling and offering to sell, in this District and elsewhere in the United States, the accused DDR4 LRDIMM products and other materially similar products that infringe the '417 patent. The accused DDR4 LRDIMM and other materially similar products have no substantial noninfringing use, and constitute a material part of the patented invention. Micron is aware that the product or process that includes the accused DDR4 LRDIMM products and other materially similar products would be covered by one or more claims of the '417 patent. The use of the product or process that includes the accused DDR4 LRDIMM products infringes at least one claim of the '417 patent.

76. Micron's infringement of the '417 patent has damaged and will continue to damage Netlist. Micron has had knowledge of predecessor patents to the '417 patent as early as 2010. Micron also gained knowledge of predecessor patents to the '417 patent in 2015, when Netlist presented its technology and patents to Micron. Micron has had actual knowledge of the '417 patent since no later than April 1, 2022, when Netlist sent Micron a licensing negotiation letter identifying its patents, including the '417 patent. Micron's infringement of the '417 patent has been continuous and willful. Micron continues to commit acts of infringement despite a high likelihood that its actions constitute infringement, and Micron knew or should have known that its actions constituted an unjustifiably high risk of infringement.

**(ix) The '215 Patent**

77. The '215 Patent, entitled "Memory Module With Data Buffering," relates to a memory module that is operable to communicate data with a memory controller via a memory bus in response to memory commands received from the memory controller. Netlist's infringement allegations concerning the '215 Patent are set forth in Netlist's operative complaint in *Micron II*. Ex. 12.

78. Netlist's infringement allegations concerning the '215 Patent are based on Micron's DDR4 LRDIMMs, which feature a memory module operable in a computer system to communicate data with a memory controller of the computer system via a memory bus in response to memory commands received from the memory controller. The memory commands may include a first memory command and a subsequent second memory command, where the first memory command causes the memory module to receive or output a first data burst, and the second memory command causes the memory module to receive or output a second data burst. These products further include a PCB having a plurality of edge connections configured to be electrically coupled to a corresponding plurality of contacts of a module slot of the computer system, and a register coupled to the PCB. The register of Micron's DDR4 LRDIMMs is configured to receive and buffer first command and address signals representing the first memory command, and to receive and buffer second command and address signals representing the second memory command. These products also include a plurality of memory integrated circuits (e.g., SDRAMs) mounted on the PCB and arranged in a plurality of ranks including a first rank and a second rank, where the plurality of memory integrated circuits include at least one first memory integrated circuit in the first rank and at least one second memory integrated circuit in the second rank. A first rank is selected to receive or output the first data burst in response to the first memory command, which is associated with a first chip-select signal, and is not selected to communicate data with the memory controller in response to the second memory command. Similarly, the second rank on

Micron's DDR4 LRDIMMs is selected to receive or output the second data burst in response to the second memory command, which is associated with a second chip-select signal, and is not selected to communicate data with the memory controller in response to the first memory command. Micron's DDR4 LRDIMMs also comprise a buffer (e.g. DDR4 data buffer) coupled between the at least one first memory integrated circuit and the memory bus, and between the at least one second memory integrated circuit and the memory bus. The buffer includes logic coupled to the buffer that is configured to respond to the first memory command by providing first control signals to the buffer to enable communication of the first data burst between the at least one first memory integrated circuit and the memory controller through the buffer. The logic is further configured to respond to the second memory command by providing second control signals to the buffer to enable communication of the second data burst between the at least one second memory integrated circuit and the memory controller through the buffer, the second control signals being different from the first control signals.

79. Micron also indirectly infringes the '215 patent, as provided in 35 U.S.C. § 271(b), by inducing infringement by others, such as Micron's customers and end users, in this District and elsewhere in the United States. For example, Micron has induced, and currently induces, the infringement of the '215 patent through its affirmative acts of selling, offering to sell, distributing, and/or otherwise making available the accused DDR4 LRDIMM products and other materially similar products that infringe the '215 patent. Micron provides specifications, datasheets, instruction manuals, and/or other materials that encourage and facilitate infringing use of the accused DDR4 LRDIMM products and other materially similar products by users in a manner that it knows or should have known would result in infringement and with the intent of inducing infringement.



80. Micron also indirectly infringes the '215 patent, as provided in 35 U.S.C. § 271(c), contributing to direct infringement committed by others, such as customers and end users, in this District and elsewhere in the United States. For example, Micron has contributed to, and currently contributes to, Micron's customers and end-users infringement of the '215 patent through its affirmative acts of selling and offering to sell, in this District and elsewhere in the United States, the accused DDR4 LRDIMM products and other materially similar products that infringe the '215 patent. The accused DDR4 LRDIMM and other materially similar products have no substantial noninfringing use, and constitute a material part of the patented invention. Micron is aware that the product or process that includes the accused DDR4 LRDIMM products and other materially similar products would be covered by one or more claims of the '215 patent. The use of the product or process that includes the accused DDR4 LRDIMM products infringes at least one claim of the '215 patent.

81. Micron's infringement of the '215 patent has damaged and will continue to damage Netlist. Micron has had knowledge of predecessor patents to the '215 patent since as early as 2010. Micron also gained knowledge of predecessor patents to the '215 patent in 2015, when Netlist presented its technology and patents to Micron. Micron has had actual knowledge of the '215 patent since no later than April 28, 2021, when Netlist sent Micron a licensing negotiation letter identifying its patents, including the '215 patent. Micron's infringement of the '215 patent has been continuous and willful. Micron continues to commit acts of infringement despite a high likelihood that its actions constitute infringement, and Micron knew or should have known that its actions constituted an unjustifiably high risk of infringement.

\* \* \*

82. Netlist also has good faith belief that each of the patents above are valid. Notably, Samsung challenged the validity of the '506 patent, '339 patent, '918 patent, '054 patent, '060

patent, and '160 patent in *Samsung I*, but the jury found all challenged claims were not invalid. *Netlist, Inc. v. Samsung Elec. Co., Ltd., et. al.*, No. 21-cv- 463-JRG, Dkt. 479 (E.D. Tex.). While Samsung and Micron have filed IPRs on the E.D. Texas Patents, Netlist disputes Samsung's and Micron's contention that these patents are invalid, and these IPR challenges remain pending.

**V. FIRST CLAIM FOR RELIEF – '506 PATENT**

83. Netlist re-alleges and incorporates by reference the allegations of the preceding paragraphs of this Complaint as if fully set forth herein.

84. A declaration that Netlist has not violated Idaho Code § 48-1703 by asserting the '506 Patent against Micron.

**VI. SECOND CLAIM FOR RELIEF – '339 PATENT**

85. Netlist re-alleges and incorporates by reference the allegations of the preceding paragraphs of this Complaint as if fully set forth herein.

86. A declaration that Netlist has not violated Idaho Code § 48-1703 by asserting the '339 Patent against Micron.

**VII. THIRD CLAIM FOR RELIEF – '918 PATENT**

87. Netlist re-alleges and incorporates by reference the allegations of the preceding paragraphs of this Complaint as if fully set forth herein.

88. A declaration that Netlist has not violated Idaho Code § 48-1703 by asserting the '918 Patent against Micron.

**VIII. FOURTH CLAIM FOR RELIEF – '054 PATENT**

89. Netlist re-alleges and incorporates by reference the allegations of the preceding paragraphs of this Complaint as if fully set forth herein.

90. A declaration that Netlist has not violated Idaho Code § 48-1703 by asserting the '054 Patent against Micron.

**IX. FIFTH CLAIM FOR RELIEF – '060 PATENT**

91. Netlist re-alleges and incorporates by reference the allegations of the preceding paragraphs of this Complaint as if fully set forth herein.

92. A declaration that Netlist has not violated Idaho Code § 48-1703 by asserting the '060 Patent against Micron.

**X. SIXTH CLAIM FOR RELIEF – '160 PATENT**

93. Netlist re-alleges and incorporates by reference the allegations of the preceding paragraphs of this Complaint as if fully set forth herein.

94. A declaration that Netlist has not violated Idaho Code § 48-1703 by asserting the '160 Patent against Micron.

**XI. SEVENTH CLAIM FOR RELIEF – '912 PATENT**

95. Netlist re-alleges and incorporates by reference the allegations of the preceding paragraphs of this Complaint as if fully set forth herein.

96. A declaration that Netlist has not violated Idaho Code § 48-1703 by asserting the '912 Patent against Micron.

**XII. EIGHTH CLAIM FOR RELIEF – '417 PATENT**

97. Netlist re-alleges and incorporates by reference the allegations of the preceding paragraphs of this Complaint as if fully set forth herein.

98. A declaration that Netlist has not violated Idaho Code § 48-1703 by asserting the '417 Patent against Micron.

**XIII. NINTH CLAIM FOR RELIEF – '215 PATENT**

99. Netlist re-alleges and incorporates by reference the allegations of the preceding paragraphs of this Complaint as if fully set forth herein.

100. A declaration that Netlist has not violated Idaho Code § 48-1703 by asserting the '215 Patent against Micron.

**XIV. TENTH CLAIM FOR RELIEF – A DECLARATION THAT MICRON’S BAD FAITH CLAIMS ARE PREEMPTED BY FEDERAL LAW AND VIOLATE NETLIST’S FIRST AMENDMENT RIGHTS**

101. Netlist re-alleges and incorporates by reference the allegations of the preceding paragraphs of this Complaint as if fully set forth herein.

102. A declaration that, to the extent that Idaho Code § 48-1703 permits a finding of bad faith without also requiring a finding that the underlying patent suit was objectively baseless under federal law, it is preempted under the Supremacy Clause of the United States Constitution and unconstitutional as applied to Netlist. Netlist also seeks a declaration that Micron’s suit violates Netlist’s right to enforce its patents under the First Amendment.

**XV. DEMAND FOR JURY TRIAL**

103. Pursuant to Federal Rule of Civil Procedure 38(b), Netlist hereby demands a trial by jury on all issues triable to a jury.

**XVI. PRAYER FOR RELIEF**

WHEREFORE, Netlist respectfully requests that this Court enter judgment in its favor and relief as follows:

A. a declaration that Netlist has not made a bad-faith assertion of patent infringement against Micron nor engaged in any unlawful, unfair, or deceptive act or practice in trade or commerce under the Idaho Consumer Protection Act, and is therefore compliant with Idaho Code § 48-1703;

B. a judgment that Micron is not entitled to any award of damages in the pursuit of this litigation pursuant to Idaho Code § 48-1706(b) and (d), § 48-1706(1)(c), Idaho Rule of Civil

Procedure 54, and such other and additional provisions of the Idaho Rules of Civil Procedure and Idaho Code, or any other applicable authority;

C. a declaration that, to the extent that Idaho Code § 48-1703, permits a finding a bad faith without also requiring a finding that the underlying patent suit was objectively baseless under federal law, it is preempted under the Supremacy Clause of the United States Constitution and unconstitutional as applied to Netlist.

D. a declaration that Micron's bad-faith suits violate Netlist's right to enforce its patents under the First Amendment;

E. such other further relief at law or in equity which may be requested and to which Netlist is entitled.

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Respectfully submitted,

/s/ Philip Warrick

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